

**National Transportation Safety Board  
Washington, DC 20594**

**Brief of Accident**

**Adopted 01/31/1994**

DCA92MA025		03/22/1992		FLUSHING, NY		Aircraft Reg No. N485US		Time (Local): 21:35 EST			
File No. 1045											
Make/Model: FOKKER / 28-4000						Fatal		Serious		Minor/None	
Engine Make/Model: ROLLS-ROYCE / SPEY M555-15P						Crew		2		1	
Aircraft Damage: Destroyed						Pass		25		8	
Number of Engines: 2										14	
Operating Certificate(s): Flag Carrier/Domestic											
Name of Carrier: USAIR, INC.											
Type of Flight Operation: Scheduled; Domestic; Passenger Only											
Reg. Flight Conducted Under: Part 121: Air Carrier											
Last Depart. Point: Same as Accident/Incident Location						Condition of Light: Night/Dark					
Destination: CLEVELAND , OH						Weather Info Src: Unknown					
Airport Proximity: On Airport						Basic Weather: Instrument Conditions					
Airport Name: LAGUARDIA						Lowest Ceiling: 700 Ft. AGL, Obscured					
Runway Identification: 13						Visibility: .75 SM					
Runway Length/Width (Ft): 7000 / 150						Wind Dir/Speed: 060 / 013 Kts					
Runway Surface: Asphalt						Temperature (°C): 0					
Runway Surface Condition: Snow--wet						Obstr to Vision: Fog					
						Precipitation: Snow					
Pilot-in-Command		Age: 44				Flight Time (Hours)					
Certificate(s)/Rating(s)						Total All Aircraft: 9820					
Airline Transport; Flight Instructor; Commercial; Flight Engineer; Multi-engine Land; Single-engine Land						Last 90 Days: Unk/Nr					
Instrument Ratings						Total Make/Model: 2200					
Airplane						Total Instrument Time: UnK/Nr					

THE AIRPLANE HAD BEEN DEICED 2 TIMES BEFORE LEAVING THE GATE. HOWEVER, 35 MINUTES HAD ELAPSED BETWEEN THE 2ND DEICING & TAKEOFF DURING WHICH TIME ICE ACCUMULATED ON THE WING. THIS TIME PERIOD EXCEEDED THE TYPE I DEICING FLUID SAFE HOLDOVER TIME (11 MIN). THE 1ST OFFICER CALLED VR 11 KTS EARLY, AND THE CAPT ROTATED ABOUT 5 KTS EARLY. AFTER LIFTOFF THE AIRPLANE STALLED AND CAME TO REST PARTIALLY INVERTED AND SUBMERGED IN THE BAY. AT THE TIME OF THE ACCIDENT, THE OPERATOR DID NOT REQUIRE A SPECIFIC EXTERIOR INSPECTION FOR ICE CONTAMINATION OF F-28 AIRPLANES DURING PERIODS OF FREEZING PRECIPITATION. ACCIDENT HISTORY SHOWS THAT NONSLATTED, TURBOJET, TRANSPORT-CATEGORY AIRPLANES HAVE BEEN INVOLVED IN A DISPROPORTIONATE NUMBER OF TAKEOFF ACCIDENTS WHERE UNDETECTED UPPER WING ICE CONTAMINATION HAS BEEN CITED AS THE PROBABLE CAUSE OR SOLE CONTRIBUTING FACTOR.

Brief of Accident (Continued)

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Occurrence #1: LOSS OF CONTROL - IN FLIGHT  
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings

1. (F) WEATHER CONDITION - ICING CONDITIONS
2. (F) WING - ICE
3. (C) ICE/FROST REMOVAL FROM AIRCRAFT - NOT IDENTIFIED - PILOT IN COMMAND
4. (C) INFORMATION INSUFFICIENT - COMPANY/OPERATOR MANAGEMENT
5. (C) INFORMATION INSUFFICIENT - FAA(OTHER/ORGANIZATION)
6. (F) PROCEDURES/DIRECTIVES - NOT FOLLOWED - PILOT IN COMMAND
7. (F) PROCEDURES/DIRECTIVES - NOT FOLLOWED - COPILOT/SECOND PILOT
8. (F) CREW/GROUP COORDINATION - INADEQUATE - PILOT IN COMMAND
9. (F) CREW/GROUP COORDINATION - INADEQUATE - COPILOT/SECOND PILOT

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Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER  
Phase of Operation: TAKEOFF - INITIAL CLIMB

Findings Legend: (C) = Cause, (F) = Factor

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The National Transportation Safety Board determines the probable cause(s) of this accident as follows.  
THE FAILURE OF THE AIRLINE INDUSTRY AND THE FEDERAL AVIATION ADMINISTRATION TO PROVIDE FLIGHTCREWS WITH PROCEDURES, REQUIREMENTS, AND CRITERIA COMPATIBLE WITH DEPARTURE DELAYS IN CONDITIONS CONDUCIVE TO AIRFRAME ICING AND THE DECISION BY THE FLIGHTCREW TO TAKE OFF WITHOUT POSITIVE ASSURANCE THAT THE AIRPLANE'S WINGS WERE FREE OF ICE ACCUMULATION AFTER 35 MINUTES OF EXPOSURE TO PRECIPITATION FOLLOWING DEICING. THE ICE CONTAMINATION ON THE WINGS RESULTED IN AN AERODYNAMIC STALL AND LOSS OF CONTROL AFTER LIFTOFF. CONTRIBUTING TO THE CAUSE OF THE ACCIDENT WERE THE INAPPROPRIATE PROCEDURES USED BY, AND INADEQUATE COORDINATION BETWEEN, THE FLIGHTCREW THAT LED TO A TAKEOFF ROTATION AT A LOWER THAN PRESCRIBED AIRSPEED. (NTSB REPORT AAR-93/020)